The modern broiler breeder housing system for artificial insemination

UNIVENT  Parents-AI
UNIVENT Parents-AI – the cage system for broiler breeders in artificial insemination (AI) programs

With UNIVENT Parents-AI, Big Dutchman can offer a housing concept for broiler breeders which are to be inseminated artificially. The system is very hygienic and efficient and consists of a three-tier manure belt battery for separate keeping of males and females. A housing system for broiler breeders must meet very specific requirements, which Big Dutchman can fulfill in an ideal way with UNIVENT Parents-AI.

These requirements include:
✓ controlled feeding;
✓ easy access to the birds during artificial insemination;
✓ secure transport of the hatching eggs.

All wire meshes used for bottom wires, cage fronts and sides are zinc-aluminium coated. This special alloy resists corrosion and rust more effectively than other materials, thus guaranteeing a longer service life.

Thanks to our many years of experience with cage and broiler breeder management, we are a competent partner for successfully managing broiler breeders in an AI program.

Feed and water supply

The Big Dutchman chain feeding system has proven to be a highly reliable and cost-effective feeding system. The CHAMPION feed chain transports the feed to the birds evenly and without separating it. The following technical details ensure that the broiler breeders are fed according to a controlled or restricted feeding schedule:
✓ The FW 9940 feed weigher ensures that all birds receive the exact predefined quantity of feed.
✓ Separate feed hoppers equipped with adjustable feed level slides in each row and each tier are supplied with the daily feed quantity via one feed valve each -> destination feeding.
✓ It is easily possible to use a separate feed mixture for males.
✓ During filling, a plastic tube closes the feed trough (optionally as reinforced or step-access version).

Nipple drinkers are used to provide the birds with clean drinking water. Nipples are made of stainless steel. A V-shaped trough below the nipples collects any splash water, thus preventing corrosion. In the group cages for the hens, each bird can easily reach the two nipples situated at the back of the cage. The two nipple drinkers for the males in their individual cages are installed at different heights. This ensures that even young, not yet fully grown males can consume plenty of water.

Feed and water supply

Feed hoppers in each tier are supplied with exactly defined feed quantity via one feed valve each

A plastic tube closes the trough during filling

Bottom wire

The bottom wire is placed on tension wires which are tensioned across the entire length of the system. This provides for good flexibility and therefore minimizes the percentage of cracked and hairline-cracked eggs.
- Mesh size: ♀ 1 x 1.5”; ♂ 1 x 1.5”
- Wire gauge: ♀ 2.0 mm; ♂ 2.5 mm
- Bottom wire slope: ♀ 7°; ♂ 0°
**Cage front/footrail**

The cage fronts for all male and female tiers consist of sliding grids which can be completely opened. This facilitates the daily artificial insemination process as well as moving birds in and out. In the male tier, the cage fronts’ rods are arranged vertically. A likewise vertical eating window with a width of 64 mm allows the males to consume feed easily, preventing injuries to the comb. In the female tiers, a flat-surfaced footrail made of plastic encourages hens to lay their eggs close to the trough. This shortens rolling-off distances and thus improves egg quality.

**EggSaver/egg collection**

The EggSaver is an optional feature to ensure that eggs roll off safely onto the longitudinal egg belt. A thin wire is installed in front of the longitudinal egg belt for this purpose. This wire is raised and lowered at certain intervals during the laying period. The elevator with cross belt or a manual collection table guarantees that the eggs are transported safely and gently.

**Manure belt and air duct**

Manure belts beneath the cages collect the manure, which can remain there for up to five days if manure belt ventilation is included. Fresh air from the optional air duct installed directly above the manure belt dries the manure and reduces the number of flies in the house as well as the ammonia load of the house air.

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**Advantages**

- significantly higher stocking density compared to barn egg production;
- considerably less males required (ratio 1:16);
- artificial insemination improves fertilisation rates permanently;
- improved hygiene status;
- good egg quality, clean hatching eggs;
- low mortality rate;
- high efficiency thanks to a high degree of automation (feed and water supply, egg collection, manure removal);
- daily feed rations for males and females are supplied exactly as required;
- step-access feed trough in all tiers
  -> ideal for inspection;
- low ammonia emissions.
Technical data and planning instructions

System type: UV-P500-AI* UV-P500-AI-m* UV-P450-m
♀ (3 tiers) ♀ (2 tiers) ♂ (1 tier) ♂ (2 tiers)

Cage dimensions:
- Depth mm 500 500 500 450
- Width mm 603 603 402 402
- Height (front) mm 496 496 597 597
- Height (cage front) mm 282 282 333 333
- Height (back) mm 432 432 597 597

Birds/cage 3 3 1 1
Number of cages/tier/section 8 8 12 12
Number of birds/tier/section 24 24 12 12
Feeding space/bird cm² 20.1 20.1 40.2 40.2
Cage area/bird cm² 1005 1005 2010 1809
System width mm 1340 1340 1340 1240

* All systems can also be supplied with small air duct.

Recommendation for planning a house of the dimensions 92 m x 16 m x 3.5 m (including intermediate ceiling): 4 rows of 34 sections of UV-P-500-AI with 3 ♀ tiers each, 2 rows of 34 sections of UV-P-500-AI-m (2 tiers ♀ and 1 tier ♂) each = 13056 females and 816 males at a ratio of 16:1.

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